



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### PIEDMONT REGIONAL OFFICE

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David K. Paylor  
Director

Jeffery Steers  
Regional Director

Molly Joseph Ward  
Secretary of Natural Resources

April 18, 2017

Jason E. Williams  
Manager, Generation Environmental Services  
Dominion Virginia Power  
Chesterfield Power Station

Transmitted electronically: [Jason.E.Williams@dom.com](mailto:Jason.E.Williams@dom.com)

Re: VA0004146 – Chesterfield Power Station – Notice of Planned Change, Hydrostatic Testing

Mr. Williams,

The DEQ received your revised Notice of Planned Change on April 13, 2017, regarding the proposed discharge of hydrostatic testing and flush waters to the Lower Ash Pond during the testing and commissioning of new piping, tanks, and basins associated with the Wet-to-Dry Project. It is understood that all but one of the planned hydrostatic tests will reuse existing process water already permitted to discharge to the Lower Ash Pond and that approximately 500 gallons of potable water will be used to test a potable water line.

We have no objection to the proposed discharge of hydrostatic testing and flush waters to the Lower Ash Pond under the existing VPDES permit. It is understood that the activity will not significantly alter the effluent characteristics at Outfall 004 and will not present any water quality concerns regarding the applicable pollutants of concern listed in the Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests General Permit (9 VAC 25-120-80, Part I.A.4). Please be advised that effluent limitations and monitoring, including quarterly whole effluent toxicity testing will continue per the current VPDES permit requirements.

Nothing in this letter relieves Dominion from the responsibility to comply with the requirements set forth in VPDES Permit No. VA0004146 or from adhering to the Virginia Water Quality Standards (9 VAC 25-260).

Sincerely,

A handwritten signature in blue ink that reads "Emilee C. Adamson".

Emilee C. Adamson  
Planning and Water Permit Manager

cc: Kenneth Roller  
Kimberly Lanterman  
Beverly Wood  
Amelia Boschen



**VIA EMAIL**

April 13, 2017

Mr. Joseph B. Bryan  
DEQ – Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, VA 23060

**RE: Dominion - Chesterfield Power Station – VA0004146**  
**Notice of Planned Change**

Dear Mr. Bryan:

Dominion is submitting the attached revised Notice of Planned Change (NPC) for VPDES Permit No. VA0004146 for the Chesterfield Power Station. This NPC is being submitted in accordance with Condition J in Part II of the subject VPDES Permit and has been revised based on comments received from DEQ via email on April 7, 2017. The purpose of this NPC is to notify the Virginia Department of Environmental Quality of hydrostatic test and flush waters that will be comingled with other plan wastewaters and discharged to the Lower Ash Pond as part of the Wet-to-Dry Project's testing and commissioning activities.

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These activities are not expected to change the characteristics of the effluent from the Lower Ash Pond, and will not affect Dominion's ability to comply with all effluent limitations for Outfall 004 in the subject VPDES permit or present any water quality concerns regarding the pollutants of concern listed in the General VPDES Permit for Discharges from Hydrostatic Tests (9 VAC 12-120-80, Part I.A.4).

If you have any questions or desire additional information, please contact Amelia Boschen of Dominion's Generation Environmental Services at (804) 273-3485 or via email at [amelia.h.boschen@dom.com](mailto:amelia.h.boschen@dom.com).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely

Jason E. Williams  
Manager, Generation Environmental Services



**Dominion Virginia Power**  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

# **NOTICE OF PLANNED CHANGE**

**VIRGINIA POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (VPDES) PERMIT  
NO. VA0004146**

**CHESTERFIELD POWER STATION  
CHESTERFIELD COUNTY, VIRGINIA**

13 April 2017

## INTRODUCTION AND PURPOSE

The Chesterfield Power Station (Station) is owned and operated by the Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion). The Station is located along the southern bank of the James River near the Dutch Gap Channel in Chesterfield County, Virginia. The Station is currently undergoing an extensive, multi-year project, referred to as the Chesterfield Integrated Ash Project (CHIAP), which is being driven by recently promulgated regulatory requirements that affect almost every aspect of how the Station currently operates. The CHIAP includes, among other things, the conversion from a wet to dry ash management system.

The Station has four coal-fired units (Units 3, 4, 5 and 6), and two combined-cycle natural gas and distillate oil fired units (Units 7 and 8) that operate with a combined capacity of approximately 1,600 megawatts. The scope of work for the wet to dry ash management system conversion (WTD Project) covers the complete design, engineering, procurement, fabrication, material delivery, and construction of all plant modifications and improvements necessary to convert Units 3, 4, 5 and 6 fly ash systems and economizer ash systems from a wet ash handling system with ash sluiced to the Lower Ash Pond (LAP) to a dry pneumatic vacuum/pressure ash handling system with fly ash silos. The bottom ash and pyrites systems will be converted from wet ash handling systems to closed loop remote submerged flight conveyor (SFC) systems with recirculation of continuous and intermittent process flow streams.

Dominion is submitting this Notice of Planned Change (NPC) to notify the Virginia Department of Environmental Quality (DEQ) of hydrostatic tests and flush waters that will be comingled with other plant wastewaters and discharged to the LAP as part of the WTD Project testing and commissioning activities. We currently plan to start these activities in early April 2017 with completion of the activities anticipated by the end of October 2017.

These activities are not expected to change the characteristics of the effluent from the LAP, and will not affect Dominion's ability to comply with all effluent limitations and applicable terms and conditions for Outfall 004 in the Station's VPDES permit (VA0004146).

This NPC was prepared in accordance with Part II.J of the Station's VPDES permit. The following section provides a description of the hydrostatic tests and flush water discharges included in this NPC.

## HYDROSTATIC TEST AND FLUSH WATERS

For the purpose of this summary of the hydrostatic test and flush waters covered by this NPC, it is important to understand the main work areas in the WTD Project in terms of new piping, tanks and basins that need to be tested and/or flushed as part of the construction and commissioning process (also summarized in Table 1 below). It will be necessary to hydrostatically test some, but not all, of the equipment being installed. Piping and tanks intended for dry service, such as natural gas or fly ash piping, will not be tested with liquids of any kind.

- **Fly Ash Area** – work area consisting of the new dry fly ash piping, drainage piping, drainage collection basin, service water piping, contact water piping, fire protection piping, potable water piping, and leachate piping.

- **Bottom Ash/Pyrites SFC Dewatering Area (the “SFC Area”)** – work area consisting of new bottom ash SFCs, new pyrite SFCs, new and existing ash sluice water (ASW) piping/pumping equipment, new Unit 4 pyrites transfer tank, drainage piping, four (4) new ASW overflow tanks, drainage collection sumps and surge basin, natural gas piping, service water piping, contact water piping, and potable water piping.
- **Power Block Area** – work area consisting of new and existing ASW piping/pumping equipment, dry fly ash piping, new pyrites transfer tank, and ash sluice water overflow tanks.

**Table 1: Summary of Details for Hydrostatic Testing for WTD Project**

Process System	Material	Applicable Work Area	Hydro Test Medium <sup>1</sup>	Approx Hydro Test Volume (gal)	Dates
<b>Fire Protection Piping</b>	HDPE and Carbon Steel	Fly Ash Area, SFC Area	Process Water	2,500	Apr to Dec, 2017
<b>Drainage Collection Piping</b>	Reinforced Concrete Pipe	Fly Ash Area, SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Potable Water Piping</b>	HDPE	Fly Ash Area, SFC Area	Potable Water	500	Apr to Dec, 2017
<b>Service Water Piping</b>	HDPE and Carbon Steel	Fly Ash Area, SFC Area	Process Water	7,300	Apr to Dec, 2017
<b>Contact Storm Water Piping</b>	HDPE and Carbon Steel	Fly Ash Area	Process Water	1,600	Apr to Dec, 2017
<b>Leachate Piping</b>	HDPE and Carbon Steel	Fly Ash Area	Process Water	900	Apr to Dec, 2017
<b>ASW Overflow Tanks</b>	Carbon Steel	Power Block	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>ASW Piping</b>	Carbon Steel	Power Block, SFC Area	Process Water	45,000	Apr to Dec, 2017
<b>Pyrites Transfer Tank</b>	Carbon Steel	Power Block	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Bottom Ash SFC</b>	Carbon Steel	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Pyrites SFC</b>	Carbon Steel	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Surge Tank</b>	Concrete Lined	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017

<sup>1</sup>Process water used for the tests and flushes consists of (a) water processed within the existing and/or modified ash/pyrites sluice water system, or (b) non-potable fire water (i.e. river water).

The discharges of test/flush and commissioning waters associated with the WTD Project can be generally summarized as follows:

### **Fly Ash Area**

Fly Ash Area test/flush waters → Fly Ash Drainage Basin → FGD Yard Sump → Lower Ash Pond

### **SFC Area**

SFC Area test/flush waters → SFC Surge Tank → Emergency Sump Line → Lower Ash Pond

### **Power Block Area**

Power Block Area test/flush waters → SFC Surge Tank → Emergency Sump Line → Lower Ash Pond

-or-

Power Block Area test/flush waters → Master Sump/Emergency Sump → Lower Ash Pond

It is important to note that the completed WTD system will be an integrated mixture of existing and new piping and pumping equipment. In many areas, new piping will be interconnected with existing piping. In addition, all installation, testing, and commissioning of the new equipment will be completed in advance of the planned closure of the LAP. Therefore, all discharges related to flushing, hydrostatic testing, commissioning, and in-service testing of the new WTD Project equipment will be routed through new and existing Station drainage sump systems, comingled with other plant wastewaters, and ultimately discharged to the LAP.

As noted in Table 1 above, all but one of the planned tests/flushes will beneficially reuse Station process water as the source. Therefore, the source for the large majority of the tests/flushes will be Station process water that is already a permitted discharge to the LAP under the Station's VPDES permit. However, process water cannot be used to flush the Potable Water Piping; therefore, potable water will be used as the source for this particular flush.

The discharge of the hydrostatic test waters to the LAP and subsequently through 004 will not affect Dominion's ability to comply with all effluent limitations for Outfall 004, nor will this activity present any water quality concerns regarding applicable pollutants of concern listed in the General VPDES Permit for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests (9 VAC 25-120-80, Part I.A.4). These include flow, pH, TPH, TOC, TRC, and TSS. All of these parameters, with the exception of TRC, are included in the routine monitoring requirements for Outfall 004 listed in the station's individual VPDES permit. TRC monitoring is only required when hydrostatic testing is conducted using a chlorinated water source. Of the proposed hydrostatic testing, only testing of the potable water line will be conducted using potable (chlorinated) water. An estimated 500 gallons of potable water will be discharged to the LAP as a result of the potable water line testing. This water will be comingled with the full volume of other process wastewaters in the LAP prior to being discharged via Outfall 004. Because of the small volume of the test water compared to the volume of the LAP, any chlorine present in the test waters is not expected to present a water quality concern at the discharge. Monitoring for the remaining parameters will be conducted as required by the station VPDES permit.

## Bryan, Joseph (DEQ)

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**From:** Bryan, Joseph (DEQ)  
**Sent:** Friday, April 07, 2017 10:47 AM  
**To:** 'Kimberly D Lanterman (Services - 6)'; Kenneth Roller (Services - 6)  
**Subject:** RE: Submittal of Notice of Planned Change for Chesterfield Integrated Ash Project (CHIAP) Hydrostatic Test and Flush Waters Discharge - Chesterfield Power Station VPDES Permit VA0004146

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Good morning,

I left both of you a voicemail regarding my review of the NPC for the CHIAP hydrostatic testing discharges. In short, the one addition that we need is for Dominion to demonstrate that the discharge of the hydrostatic testing waters to the LAP and, subsequently, through Outfall 004 will not present water quality concerns regarding the pollutants of concern listed in the Hydrostatic Testing GP ([9 VAC 25-120-80, Part I.A.4](#)).

Outfall 004 has monitoring for Flow and TOC and limits set for pH and TSS; however, TPH and TRC are not addressed.

Let me know if you have any questions,

Joseph B. Bryan  
VPDES Water Permit Writer  
VA DEQ - Piedmont Regional Office  
804.527.5012  
[joseph.bryan@deq.virginia.gov](mailto:joseph.bryan@deq.virginia.gov)  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

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**From:** Kimberly D Lanterman (Services - 6) [<mailto:Kimberly.D.Lanterman@dom.com>]  
**Sent:** Tuesday, April 04, 2017 12:16 PM  
**To:** Adamson, Emilee (DEQ)  
**Cc:** Bryan, Joseph (DEQ); Kenneth Roller (Services - 6)  
**Subject:** Submittal of Notice of Planned Change for Chesterfield Integrated Ash Project (CHIAP) Hydrostatic Test and Flush Waters Discharge - Chesterfield Power Station VPDES Permit VA0004146  
**Importance:** High

Hello Emilee – Please find attached the Notice of Planned Change (NPC) for the CHIAP hydrostatic test and flush waters discharge associated with the wet-to-dry conversion project. This NPC is being submitted in accordance with Part II, Condition J of the Chesterfield Power Station VPDES Permit VA0004146. We would greatly appreciate DEQ's expedited review and concurrence with the NPC.

Please contact either Ken or me if you have any questions or need additional information. Thanks for your time and assistance.

Kim Lanterman  
Dominion Environmental Services  
804-273-4123

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**CONFIDENTIALITY NOTICE:** This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.



**Dominion Resources Services, Inc.**  
5000 Dominion Boulevard, Glen Allen, VA 23060  
dom.com



April 4, 2017

Ms. Emilee Adamson  
VPDES Permit Manager  
Virginia Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, Virginia 23060

Subj: Chesterfield Power Station VPDES Individual Permit VA0004146  
Notice of Planned Change

Dear Ms. Adamson:

Dominion is submitting the attached Notice of Planned Change (NPC) for VPDES Permit No. VA0004146 for the Chesterfield Power Station. This NPC is being submitted in accordance with Condition J in Part II of the subject VPDES Permit. The purpose of this NPC is to notify the Virginia Department of Environmental Quality of hydrostatic test and flush waters that will be comingled with other plant wastewaters and discharged to the Lower Ash Pond as part of the Wet-to-Dry Project's testing and commissioning activities.

These activities are not expected to change the characteristics of the effluent from the Lower Ash Pond, and will not affect Dominion's ability to comply with all effluent limitations for Outfall 004 in the subject VPDES permit.

If you have any questions regarding this submission, please contact Ken Roller at [Kenneth.Roller@dom.com](mailto:Kenneth.Roller@dom.com). Thank you for your assistance.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Jason E. Williams  
Manager  
Generation Environmental Services

Attachment



**Dominion Virginia Power**  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

# **NOTICE OF PLANNED CHANGE**

**VIRGINIA POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (VPDES) PERMIT  
NO. VA0004146**

**CHESTERFIELD POWER STATION  
CHESTERFIELD COUNTY, VIRGINIA**

3 April 2017

## INTRODUCTION AND PURPOSE

The Chesterfield Power Station (Station) is owned and operated by the Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion). The Station is located along the southern bank of the James River near the Dutch Gap Channel in Chesterfield County, Virginia. The Station is currently undergoing an extensive, multi-year project, referred to as the Chesterfield Integrated Ash Project (CHIAP), which is being driven by recently promulgated regulatory requirements that affect almost every aspect of how the Station currently operates. The CHIAP includes, among other things, the conversion from a wet to dry ash management system.

The Station has four coal-fired units (Units 3, 4, 5 and 6), and two combined-cycle natural gas and distillate oil fired units (Units 7 and 8) that operate with a combined capacity of approximately 1,600 megawatts. The scope of work for the wet to dry ash management system conversion (WTD Project) covers the complete design, engineering, procurement, fabrication, material delivery, and construction of all plant modifications and improvements necessary to convert Units 3, 4, 5 and 6 fly ash systems and economizer ash systems from a wet ash handling system with ash sluiced to the Lower Ash Pond (LAP) to a dry pneumatic vacuum/pressure ash handling system with fly ash silos. The bottom ash and pyrite systems will be converted from wet ash handling systems to closed loop remote submerged flight conveyor (SFC) systems with recirculation of continuous and intermittent process flow streams.

Dominion is submitting this Notice of Planned Change (NPC) to notify the Virginia Department of Environmental Quality (DEQ) of hydrostatic tests and flush waters that will be comingled with other plant wastewaters and discharged to the LAP as part of the WTD Project testing and commissioning activities. We currently plan to start these activities in early April 2017 with completion of the activities anticipated by the end of October 2017.

These activities are not expected to change the characteristics of the effluent from the LAP, and will not affect Dominion's ability to comply with all effluent limitations and applicable terms and conditions for Outfall 004 in the Station's VPDES permit (VA0004146).

This NPC was prepared in accordance with Part II.J of the Station's VPDES permit. The following section provides a description of the hydrostatic tests and flush water discharges included in this NPC.

## HYDROSTATIC TEST AND FLUSH WATERS

For the purpose of this summary of the hydrostatic test and flush waters covered by this NPC, it is important to understand the main work areas in the WTD Project in terms of new piping, tanks and basins that need to be tested and/or flushed as part of the construction and commissioning process (also summarized in Table 1 below). It will be necessary to hydrostatically test some, but not all, of the equipment being installed. Piping and tanks intended for dry service, such as natural gas or fly ash piping, will not be tested with liquids of any kind.

- **Fly Ash Area** – work area consisting of the new dry fly ash piping, drainage piping, drainage collection basin, service water piping, contact water piping, fire protection piping, potable water piping, and leachate piping.

- **Bottom Ash/Pyrites Submerged Flight Conveyor Dewatering Area (the “SFC Area”)** – work area consisting of new bottom ash SFCs, new pyrite SFCs, new and existing ash sluice water (ASW) piping/pumping equipment, new Unit 4 pyrites transfer tank, drainage piping, four (4) new ASW overflow tanks, drainage collection sumps and surge basin, natural gas piping, service water piping, contact water piping, and potable water piping.
- **Power Block Area** – work area consisting of new and existing ASW piping/pumping equipment, dry fly ash piping, new pyrites transfer tank, and ash sluice water overflow tanks.

**Table 1: Summary of Details for Hydrostatic Testing for WTD Project**

Process System	Material	Applicable Work Area	Hydro Test Medium <sup>1</sup>	Approx Hydro Test Volume (gal)	Dates
<b>Fire Protection Piping</b>	HDPE and Carbon Steel	Fly Ash Area, SFC Area	Process Water	2,500	Apr to Dec, 2017
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<b>Potable Water Piping</b>	HDPE	Fly Ash Area, SFC Area	Potable Water	500	Apr to Dec, 2017
<b>Service Water Piping</b>	HDPE and Carbon Steel	Fly Ash Area, SFC Area	Process Water	7,300	Apr to Dec, 2017
<b>Contact Storm Water Piping</b>	HDPE and Carbon Steel	Fly Ash Area	Process Water	1,600	Apr to Dec, 2017
<b>Leachate Piping</b>	HDPE and Carbon Steel	Fly Ash Area	Process Water	900	Apr to Dec, 2017
<b>ASW Overflow Tanks</b>	Carbon Steel	Power Block	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>ASW Piping</b>	Carbon Steel	Power Block, SFC Area	Process Water	45,000	Apr to Dec, 2017
<b>Pyrites Transfer Tank</b>	Carbon Steel	Power Block	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Bottom Ash SFC</b>	Carbon Steel	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Pyrites SFC</b>	Carbon Steel	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017
<b>Surge Tank</b>	Concrete Lined	SFC Area	Not Applicable	No hydro test required	Apr to Dec, 2017

<sup>1</sup>Process water used for the tests and flushes consists of (a) water processed within the existing and/or modified ash/pyrites sluice water system, or (b) non-potable fire water (i.e., river water).

The discharges of test/flush and commissioning waters associated with the WTD Project can be generally summarized as follows:

### **Fly Ash Area**

Fly Ash Area test/flush waters → Fly Ash Drainage Basin → FGD Yard Sump → Lower Ash Pond

### **SFC Area**

SFC Area test/flush waters → SFC Surge Tank → Emergency Sump Line → Lower Ash Pond

### **Power Block Area**

Power Block Area test/flush waters → SFC Surge Tank → Emergency Sump Line → Lower Ash Pond

-or-

Power Block Area test/flush waters → Master Sump/Emergency Sump → Lower Ash Pond

It is important to note that the completed WTD system will be an integrated mixture of existing and new piping and pumping equipment. In many areas, new piping will be interconnected with existing piping. In addition, all installation, testing, and commissioning of the new equipment will be completed in advance of the planned closure of the LAP. Therefore, all discharges related to flushing, hydrostatic testing, commissioning, and in-service testing of the new WTD Project equipment will be routed through new and existing Station drainage sump systems, comingled with other plant wastewaters, and ultimately discharged to the LAP.

As noted in Table 1 above, all but one of the planned tests/flushes will use Station process water (i.e., water processed within the existing and/or modified ash/pyrites sluice water system or river water) as the source. Therefore, the source for the large majority of the tests/flushes will be Station process water that is already a permitted discharge to the LAP under the Station's VPDES permit. However, process water cannot be used to flush the Potable Water Piping; therefore, potable water will be used as the source for this particular flush. The estimated volume of water for this flush is de minimis compared to the volume of process water that the flush water will be comingled with prior to discharge to the LAP. Therefore, we do not anticipate any impact to the LAP effluent characteristics resulting from the discharge of the planned WTD Project test and flush waters identified above. Furthermore, as previously noted, these activities will not affect Dominion's ability to comply with all effluent limitations for Outfall 004 in the Station's VPDES permit.